

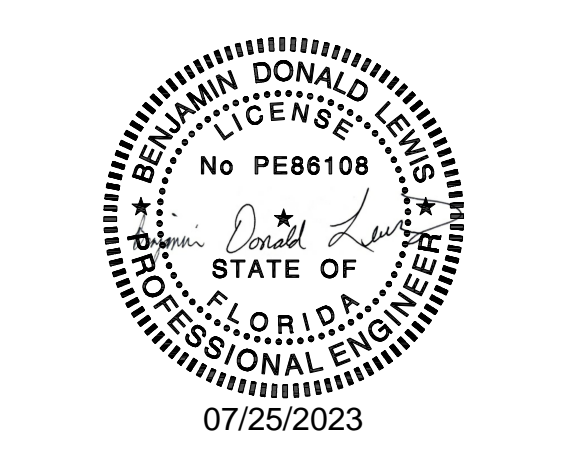


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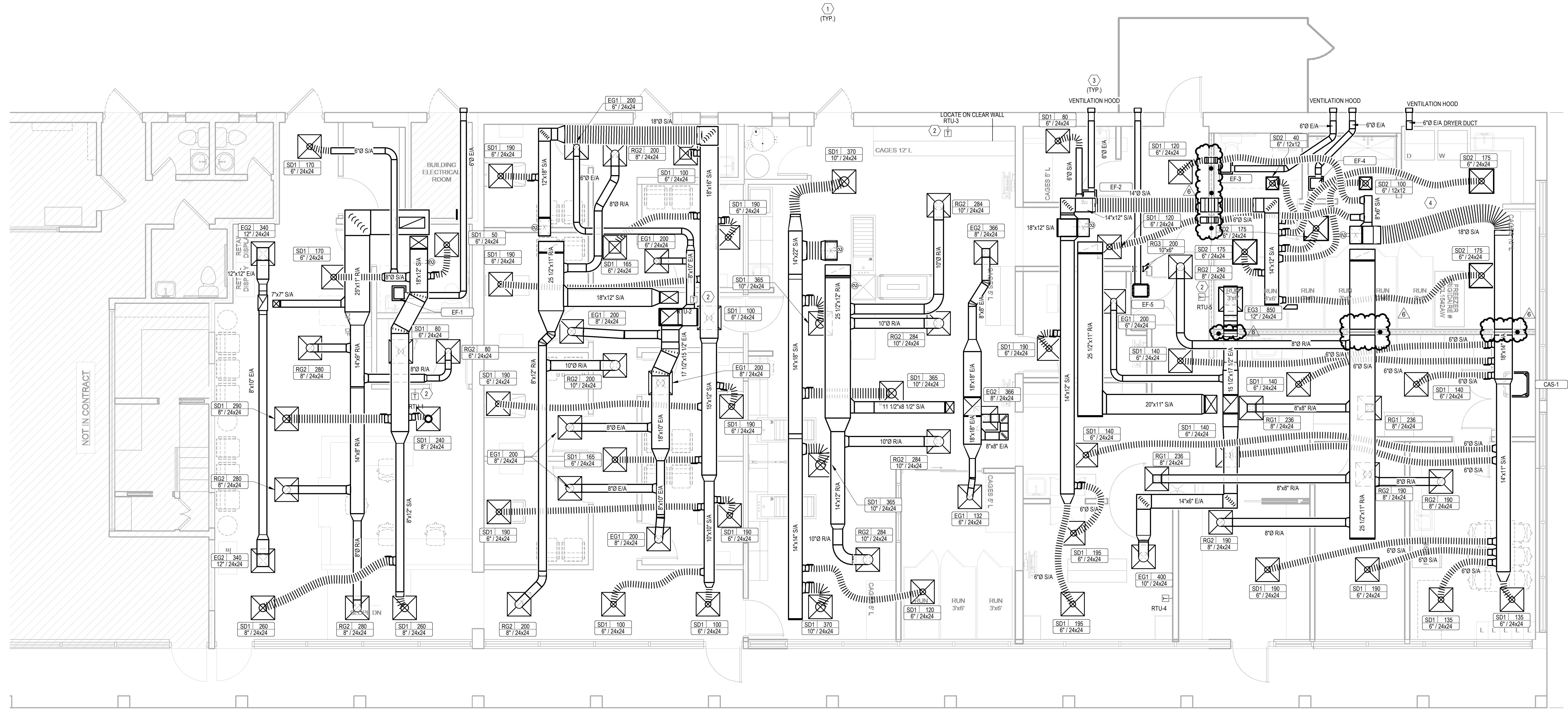
VETERINARY ARCHITECTURE
Unleashed
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KAIROS PROJECT GROUP, INC.
 120 SOMMERVILLE PARK ROAD
 RALEIGH, NC 27603
 NC FIRM # C-3824
 KPG PROJECT # 2225134

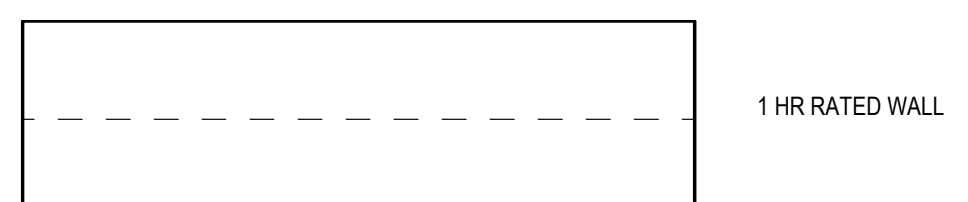


- KEYNOTES**
- 1 CONTRACTOR MAY USE UL 181 RATED FLEX DUCT INSTALLED PER CODE FOR SUPPLY DUCT. FLEX DUCT IS NOT ALLOWED FOR RETURN OR EXHAUST DUCT.
 - 2 CONTRACTOR TO INSTALL AVERAGING THERMOSTAT, AND PLACE AVERAGING SENSORS IN EACH ROOM. CONTRACTOR MUST ALSO INSTALL VISIBLE/AUDIBLE ALARM WITH KEY SWITCH AND TESTING FUNCTION FOR EACH SMOKE DETECTOR.
 - 3 CONTRACTOR TO LOCATE EXHAUST DUCT A MINIMUM OF TEN FT AWAY FROM FRESH AIR INTAKES.
 - 4 NO DUCTWORK SHALL PENETRATE FIRE RATED WALLS IN KENNEL AREA. ALL DUCTWORK SHALL STAY ABOVE FIRE RATED WALLS AND ONLY PASS THROUGH ROOF TRUSSES. ONLY FIRE RATED PENETRATIONS ARE DIFFUSERS. REFER TO DETAILS #10 & #11 ON SHEET M101.



NOT IN CONTRACT

1 HVAC FLOOR PLAN
 M101 1/4" = 1'-0"



DRAWING TITLE:
HVAC FLOOR PLAN

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CONSTRUCTION DOCUMENTS

REVISIONS		
NO.	DATE	DESCRIPTION
1	10/26/2023	CODE REVIEW COMMENTS #1
2	3/28/2023	CODE REVIEW COMMENTS #2
3	7/25/2023	REVIEW COMMENTS
6	10/23/2023	FIRE DAMPERS

ISSUE DATE: DECEMBER 16, 2022

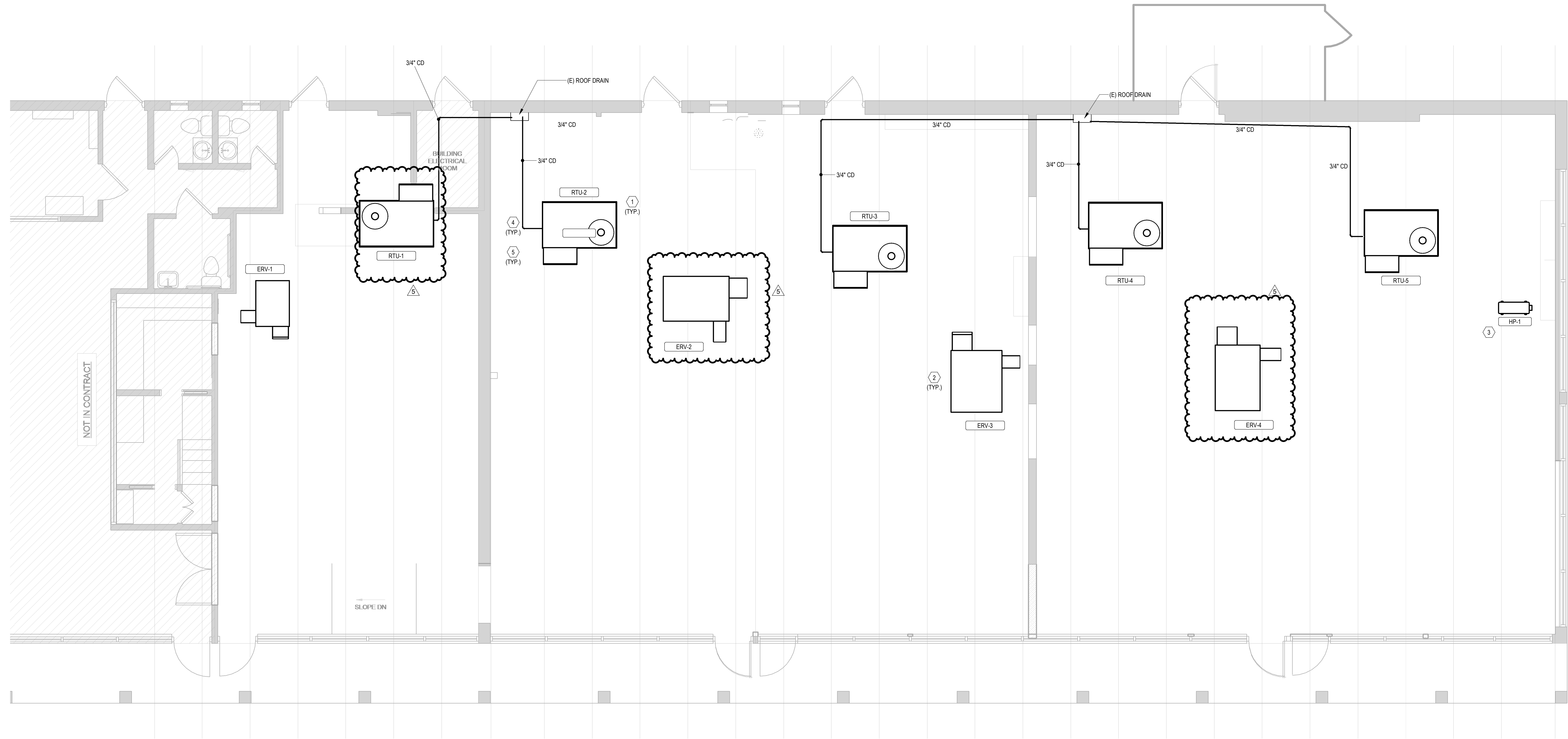
M101

General Mechanical Notes

- 1 A MECHANICAL DEMOLITION PERMIT MUST BE APPLIED FOR AND RECEIVED TO RECOVER THE FREON AND REMOVE THE EXISTING RTU'S.
- 2 CURBS AND ADAPTERS FOR THE RTU'S AND ERV'S MUST HAVE THEIR ENGINEERING DESIGN SUBMITTED FOR AND RECEIVE A NOTICE OF ACCEPTANCE FROM THE STATE OF FLORIDA OR MIAMI-DADE COUNTY

KEYNOTES

- 1 MECHANICAL CONTRACTOR TO MOUNT NEW RTU'S IN SAME LOCATION AS EXISTING UNITS. REUSE EXISTING CURBS, IF POSSIBLE, USE CURB ADAPTERS IF NEEDED. COORDINATE WORK WITH GC AND ROOFING CONTRACTOR.
- 2 MECHANICAL CONTRACTOR TO FURNISH AND INSTALL NEW ROOF CURBS FOR ERV UNITS. COORDINATE LOCATION AND ROOF PATCHING WITH GC AND ROOFING CONTRACTOR.
- 3 MECHANICAL CONTRACTOR TO LOCATE DUCTLESS SPLIT SYSTEM OUTDOOR UNIT DIRECTLY ABOVE INDOOR CASSETTE. ROUTING WILL BE DIRECTLY BETWEEN THE OUTDOOR UNIT AND THE CASSETTE. COORDINATE THE LOCATION AND ANY NEEDED ROOF REPAIR WITH THE GC AND ROOFING CONTRACTOR.
- 4 CONDENSATE DRAIN IS TO BE STRAPPED AND SUPPORTED EVERY 4 FT IF MATERIAL USED IS PVC. SEE TABLE 305.4 IN THE 2022 FBC. MECHANICAL CODE FOR SUPPORT SPACING FOR OTHER MATERIALS. PIPING SHALL RUN TO GRADE AND TERMINATE AT LEAST 12" FROM BUILDING FOUNDATION IN A NON NUISANCE AREA. A MINIMUM SLOPE OF 1/8" IN 1' VERTICAL PER 12 UNITS HORIZONTAL SHALL BE MAINTAINED IN THE DIRECTION OF DISCHARGE.
- 5 PIPE PROP IS THE DEVICE SYSTEM THAT WE RECOMMEND FOR ANCHORING THE CONDENSATE DRAIN PIPE. IT CARRIES NOA No. 22-0721.03 WE HAVE ATTACHED THEIR NOA TO OUR RESPONSE.



1 HVAC ROOF PLAN
M201 1/4" = 1'-0"



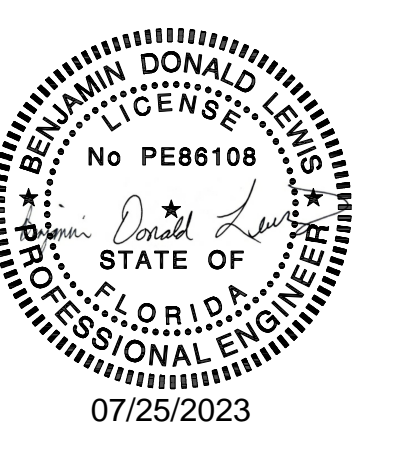
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HVAC ROOF PLAN

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CONSTRUCTION DOCUMENTS

REVISIONS		
NO.	DATE	DESCRIPTION
1	02/06/2023	CODE REVIEW COMMENTS
2	3/28/2023	CODE REVIEW COMMENTS #2
3	7/25/2023	REVIEW COMMENTS

ISSUE DATE: DECEMBER 16, 2022

M201



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FLORIDA BUILDING CODE 2020, 7th EDITION MECHANICAL SECTION 403 .3 .1 .1 ; VENTILATION CALCULATIONS													
RTU-1													
ROOM NAME	OCCUPANCY CLASS	AREA (Az)	OCCUPANCY DENSITY (PEOPLE / 1000 FT^2)	OCCUPANCY (Pz)	OCCUPANCY BASED		AREA BASED		BREATHING ZONE OUTDOOR AIRFLOW (Vb = Rp*Pz + Ra*Az)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIRFLOW (Voz = Vbz / Ez)	EXHAUST RATE (CFM)	PET SHOP
					CFM / PERSON (Rp)	CFM (Rp*Pz)	CFM / SF (Ra)	CFM (Ra*Az)					EXHAUST
Main Lobby / Reception	PET SHOP (ANIMAL AREA)	731	10	8	7.5	60	0.18	131.58	191.58	0.8	240	0	657.9
Lobby Toilet	PUBLIC SPACES (TOILET ROOMS)	61	0	0	0	0	0	0	0	0.8	0	70	0
Janitor Closet	ASHRAE62.1-2019-JC	41	0	0	10	0	0	0	0	0.8	0	41	0
TOTALS ----->					0						240	111	657.9

OUTDOOR AIR INTAKE FLOW RATE:	240
PET SHOP EXHAUST FLOW RATE:	657.9
EXHAUST FLOW RATE PLUS 8% FOR PRESSURIZATION	119.88
FINAL VENT. AIR REQUIREMENT (GREATER OF THE ABOVE):	657.9

ERV-1 TO PROVIDE 680 CFM OF OUTSIDE AIR

FLORIDA BUILDING CODE 2020, 7th EDITION MECHANICAL SECTION 403 .3 .1 .1 ; VENTILATION CALCULATIONS													
RTU-2													
ROOM NAME	OCCUPANCY CLASS	AREA (Az)	OCCUPANCY DENSITY (PEOPLE / 1000 FT^2)	OCCUPANCY (Pz)	OCCUPANCY BASED		AREA BASED		BREATHING ZONE OUTDOOR AIRFLOW (Vb = Rp*Pz + Ra*Az)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIRFLOW (Voz = Vbz / Ez)	EXHAUST RATE (CFM)	PET SHOP
					CFM / PERSON (Rp)	CFM (Rp*Pz)	CFM / SF (Ra)	CFM (Ra*Az)					EXHAUST
Exam Room 106	PET SHOP (ANIMAL AREA)	77	10	1	7.5	7.5	0.18	13.86	21.36	0.8	27	0	69.3
Exam Room 107	PET SHOP (ANIMAL AREA)	86	10	1	7.5	7.5	0.18	15.48	22.98	0.8	29	0	77.4
Exam Room 109	PET SHOP (ANIMAL AREA)	78	10	1	7.5	7.5	0.18	14.04	21.54	0.8	27	0	70.2
Exam Room 110	PET SHOP (ANIMAL AREA)	78	10	1	7.5	7.5	0.18	14.04	21.54	0.8	27	0	70.2
Exam Room 112	PET SHOP (ANIMAL AREA)	75	10	1	7.5	7.5	0.18	13.5	21	0.8	27	0	67.5
Exam Room 113	PET SHOP (ANIMAL AREA)	75	10	1	7.5	7.5	0.18	13.5	21	0.8	27	0	67.5
Exam Room 114	PET SHOP (ANIMAL AREA)	75	10	1	7.5	7.5	0.18	13.5	21	0.8	27	0	67.5
Prep Area Corridor	PET SHOP (ANIMAL AREA)	351	10	4	7.5	30	0.18	63.18	93.18	0.8	117	0	315.9
TOTALS ----->					0						308	0	805.5

OUTDOOR AIR INTAKE FLOW RATE:	308
PET SHOP EXHAUST FLOW RATE:	805.5
EXHAUST FLOW RATE PLUS 8% FOR PRESSURIZATION	0
FINAL VENT. AIR REQUIREMENT (GREATER OF THE ABOVE):	805.5

RTU-2 TO PROVIDE NO OUTSIDE AIR

ERV-2 TO PROVIDE 1400 CFM OF OUTSIDE AIR

FLORIDA BUILDING CODE 2020, 7th EDITION MECHANICAL SECTION 403 .3 .1 .1 ; VENTILATION CALCULATIONS													
RTU-3													
ROOM NAME	OCCUPANCY CLASS	AREA (Az)	OCCUPANCY DENSITY (PEOPLE / 1000 FT^2)	OCCUPANCY (Pz)	OCCUPANCY BASED		AREA BASED		BREATHING ZONE OUTDOOR AIRFLOW (Vb = Rp*Pz + Ra*Az)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIRFLOW (Voz = Vbz / Ez)	EXHAUST RATE (CFM)	PET SHOP
					CFM / PERSON (Rp)	CFM (Rp*Pz)	CFM / SF (Ra)	CFM (Ra*Az)					EXHAUST
02 Closet	RETAIL STORES (STORAGE ROOMS)	23	0	0	0	0	0.12	2.76	2.76	0.8	4	0	0
Treatment & Dental	PET SHOP (ANIMAL AREA)	814	10	9	7.5	67.5	0.18	146.52	214.02	0.8	268	0	732.6
Recovery	PET SHOP (ANIMAL AREA)	146	10	2	7.5	15	0.18	26.28	41.28	0.8	52	0	131.4
TOTALS ----->					0						324	0	864

OUTDOOR AIR INTAKE FLOW RATE:	324
PET SHOP EXHAUST FLOW RATE:	864
EXHAUST FLOW RATE PLUS 8% FOR PRESSURIZATION	0
FINAL VENT. AIR REQUIREMENT (GREATER OF THE ABOVE):	864

RTU-3 TO PROVIDE NO OUTSIDE AIR

ERV-3 TO PROVIDE 864 CFM OF OUTSIDE AIR

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HVAC SCHEDULES

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CONSTRUCTION DOCUMENTS

REVISIONS		
NO.	DATE	DESCRIPTION
1	02/08/2023	CODE REVIEW COMMENTS

ISSUE DATE: DECEMBER 16, 2022

M301

FLORIDA BUILDING CODE 2020, 7th EDITION MECHANICAL SECTION 403.3.1.1 ; VENTILATION CALCULATIONS													
RTU-4													
ROOM NAME	OCCUPANCY CLASS	AREA (Az)	OCCUPANCY DENSITY (PEOPLE / 1000 FT^2)	OCCUPANCY (Pz)	OCCUPANCY BASED		AREA BASED		BREATHING ZONE OUTDOOR AIRFLOW (Vb = Rp*Pz + Ra*Az)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIRFLOW (Voz = Vbz / Ez)	EXHAUST RATE (CFM)	PET SHOP EXHAUST
					CFM / PERSON (Rp)	CFM (Rp*Pz)	CFM / SF (Ra)	CFM (Ra*Az)					
Isolation	PET SHOP (ANIMAL AREA)	51	10	1	7.5	7.5	0.18	9.18	16.68	0.8	21	0	45.9
XRAY	PET SHOP (ANIMAL AREA)	93	10	1	7.5	7.5	0.18	16.74	24.24	0.8	31	0	83.7
Existing Bathroom	PUBLIC SPACES (TOILET ROOM)	37	0	0	0	0	0	0	0	0.8	0	70	0
Kennel / Laundry	PET SHOP (ANIMAL AREA)	411	10	5	7.5	37.5	0.18	73.98	111.48	0.8	140	0	369.9
Surgery	PET SHOP (ANIMAL AREA)	146	10	2	7.5	15	0.18	26.28	41.28	0.8	52	0	131.4
TOTALS ----->				0							244	70	630.9

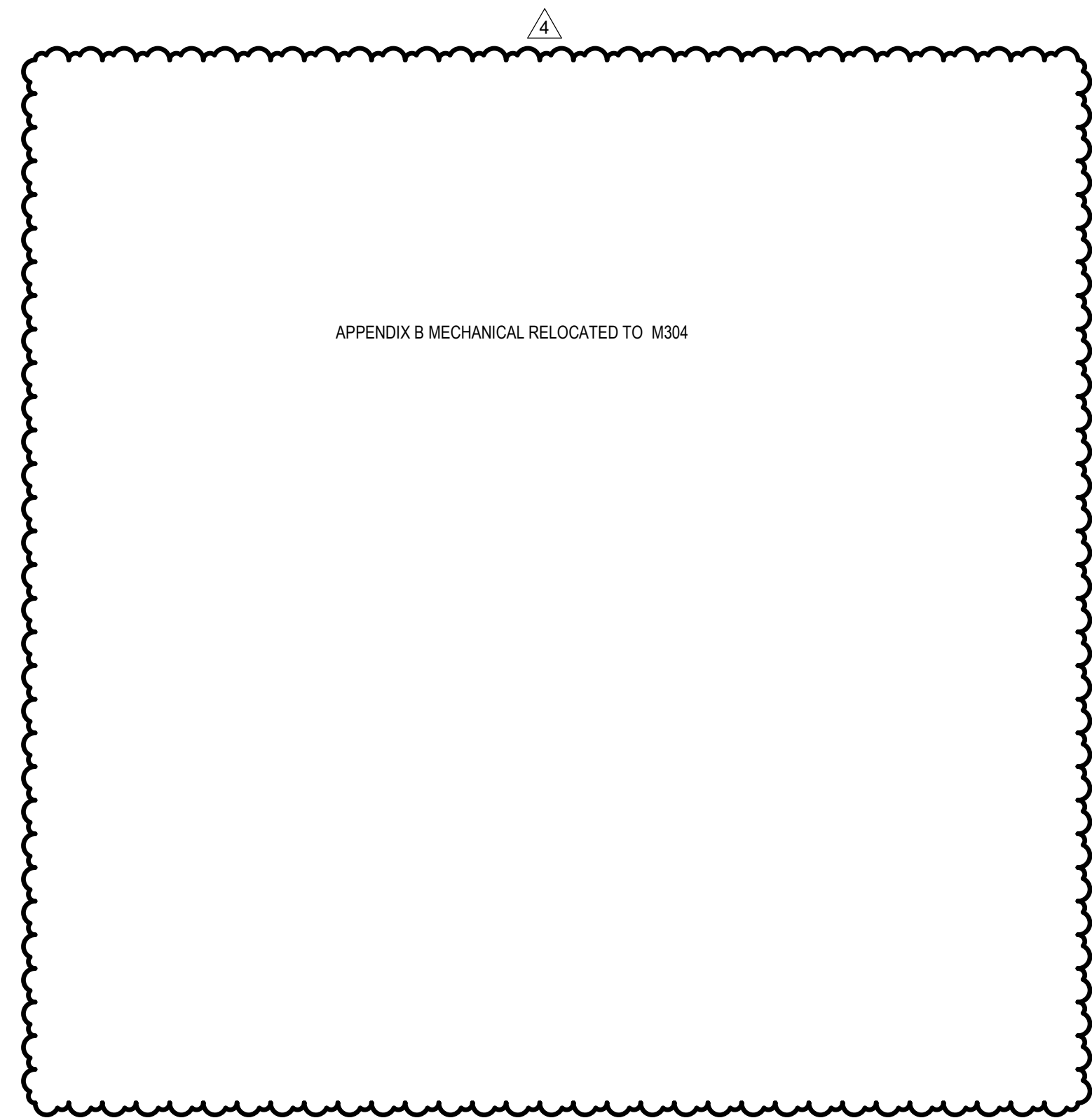
OUTDOOR AIR INTAKE FLOW RATE:	244
PET SHOP EXHAUST FLOW RATE:	630.9
EXHAUST FLOW RATE PLUS 8% FOR PRESSURIZATION	75.6
FINAL VENT. AIR REQUIREMENT (GREATER OF THE ABOVE):	630.9

RTU-4 TO PROVIDE 210 CFM OF OUTSIDE AIR
 ERV-4 TO PROVIDE 1450 CFM OF OUTSIDE AIR

FLORIDA BUILDING CODE 2020, 7th EDITION MECHANICAL SECTION 403.3.1.1 ; VENTILATION CALCULATIONS													
RTU-5													
ROOM NAME	OCCUPANCY CLASS	AREA (Az)	OCCUPANCY DENSITY (PEOPLE / 1000 FT^2)	OCCUPANCY (Pz)	OCCUPANCY BASED		AREA BASED		BREATHING ZONE OUTDOOR AIRFLOW (Vb = Rp*Pz + Ra*Az)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIRFLOW (Voz = Vbz / Ez)	EXHAUST RATE (CFM)	PET SHOP EXHAUST
					CFM / PERSON (Rp)	CFM (Rp*Pz)	CFM / SF (Ra)	CFM (Ra*Az)					
Laundry Corridor	PUBLIC SPACES (CORRIDORS)	160	0	0	0	0	0.06	9.6	9.6	0.8	12	0	0
Surgery Prep	WORKROOMS (PHARAMCY PREP)	424	10	5	5	25	0.18	76.32	101.32	0.8	127	0	0
DVM Office	OFFICES (OFFICE SPACE)	128	5	1	5	5	0.06	7.68	12.68	0.8	16	0	0
HM Office	OFFICES (OFFICE SPACE)	128	5	1	5	5	0.06	7.68	12.68	0.8	16	0	0
Break Room	OFFICES (CONFERENCE ROOM)	178	50	9	5	45	0.06	10.68	55.68	0.8	70	0	0
TOTALS ----->				0							241	0	0

OUTDOOR AIR INTAKE FLOW RATE:	241
PET SHOP EXHAUST FLOW RATE:	0
EXHAUST FLOW RATE PLUS 8% FOR PRESSURIZATION	0
FINAL VENT. AIR REQUIREMENT (GREATER OF THE ABOVE):	241

BALANCE RTU-5 TO PROVIDE 291 CFM OF OUTSIDE AIR



ROOFTOP UNIT SCHEDULE																							
ID Type	MANUFACTURER	MODEL NO.	QTY	VENTILATION		SUPPLY FAN DESIGN AIRFLOW	COOLING CAP	COMPRESSOR REFRIGERANT TYPE	NET COOLING CAP	SEER2	ELECTRIC HEATING POWER	UNIT DIMENSIONS			UNIT WEIGHT	FLA	MCA	MOCP	VOLT	PH	FREQ	INTERLOCK ID	REMARKS
				DESIGN AIRFLOW	DESIGN AIRFLOW							LENGTH	WIDTH	HEIGHT									
RTU-1	CARRIER	50FC05A2A3-0A0A0	1	0 CFM	1600 CFM	4.0 ton	R410A	50960 Btu/h	13.8	3.3 kW	6'-2 3/8"	3'-10 5/8"	2'-9 3/8"	547 lb	7.1 A	34.0 A	50.0 A	208 V	1	60 Hz	ERV-1	WITH FIELD INSTALLED 3.3 KW STRIP HEAT AND AIR DAMPER	
RTU-2	CARRIER	50FC06A2A3-0A0A0	1	0 CFM	2000 CFM	5.0 ton	R410A	60000 Btu/h	13.6	4.9 kW	6'-2 3/8"	3'-10 5/8"	2'-9 3/8"	560 lb	8.6 A	41.0 A	60.0 A	208 V	1	60 Hz	ERV-2	WITH FIELD INSTALLED 4.9 KW STRIP HEAT AND AIR DAMPER	
RTU-3	CARRIER	50FC06A2A3-0A0A0	1	0 CFM	2000 CFM	5.0 ton	R410A	60000 Btu/h	13.6	4.9 kW	6'-2 3/8"	3'-10 5/8"	2'-9 3/8"	560 lb	8.6 A	41.0 A	60.0 A	208 V	1	60 Hz	ERV-3	WITH FIELD INSTALLED 4.9 KW STRIP HEAT AND AIR DAMPER	
RTU-4	CARRIER	50FC05A2A3-0A0A0	1	210 CFM	1600 CFM	4.0 ton	R410A	50960 Btu/h	13.8	3.3 kW	6'-2 3/8"	3'-10 5/8"	2'-9 3/8"	547 lb	7.1 A	34.0 A	50.0 A	208 V	1	60 Hz	ERV-4	WITH FIELD INSTALLED 3.3 KW STRIP HEAT AND AIR DAMPER	
RTU-5	CARRIER	50FC05A2A3-0A0A0	1	241 CFM	1600 CFM	4.0 ton	R410A	50960 Btu/h	13.8	3.3 kW	6'-2 3/8"	3'-10 5/8"	2'-9 3/8"	547 lb	7.1 A	34.0 A	50.0 A	208 V	1	60 Hz	ERV-4	WITH FIELD INSTALLED 3.3 KW STRIP HEAT AND AIR DAMPER	

(ERV) ENERGY RECOVERY VENTILATOR SCHEDULE																							
ID Type	MANUFACTURER	MODEL NO.	QTY	SUPPLY FAN		MOTOR		EXHAUST FAN		MOTOR		UNIT DIMENSIONS			UNIT WEIGHT	FLA	MCA	MOCP	VOLT	PH	FREQ	INTERLOCK ID	REMARKS
				DESIGN AIRFLOW	DRIVE TYPE	POWER	RPM	DESIGN AIRFLOW	DRIVE TYPE	POWER	RPM	LENGTH	WIDTH	HEIGHT									
ERV-1	Greenheck	ERV-10-20L-VG	1	680 CFM	DIRECT	0.50 hp	1725	680 CFM	DIRECT	0.50 hp	1725	3'-10 3/32"	2'-9 11/16"	3'-4 3/16"	270 lb	8.9 A	15.0 A	208 V	1	60 Hz	RTU-1		
ERV-2	Greenheck	ERV-6-20-15H	1	1400 CFM	BELT	1.00 hp	1725	1400 CFM	BELT	1.00 hp	1725	5'-5 29/32"	3'-9 3/32"	5'-6 19/32"	722 lb	20.3 A	25.0 A	208 V	1	60 Hz	RTU-2		
ERV-3	Greenheck	ERV-20-15L	1	864 CFM	BELT	0.50 hp	1725	864 CFM	BELT	0.53 hp	1725	5'-2"	4'-3"	3'-10 19/32"	661 lb	11.2 A	15.0 A	208 V	1	60 Hz	RTU-3		
ERV-4	Greenheck	ERV-6-20-15H	1	1450 CFM	BELT	1.00 hp	1725	1450 CFM	BELT	1.00 hp	1725	5'-5 29/32"	3'-9 3/32"	5'-6 19/32"	722 lb	20.3 A	25.0 A	208 V	1	60 Hz	RTU-4		

SPLIT SYSTEM CONDENSING UNIT																							
ID	DESCRIPTION	Manufacturer	MODEL NO.	QTY	NOMINAL COOLING CAP		NOMINAL HEATING CAP		COMPRESSOR		UNIT DIMENSIONS			UNIT WEIGHT	FLA	MCA	MOCP	VOLT	PH	FREQ	REMARKS		
					REFRIGERANT TYPE	CHARGE	SEER	EER	LENGTH	WIDTH	HEIGHT												
HP-1	MULTIZONE OUTDOOR DUCTLESS HEATPUMP	CARRIER	38MGRQ18B-3	1	1.5 ton		12000 Btu/h		R410A	4.41 lb	22.5	12.15	1'-3 3/16"	2'-9 9/32"	2'-3 19/32"	106 lb	0.74 A	18.0 A	25.0 A	208 V	1	60 Hz	OR EQUAL ACCEPTABLE

NOTE: SIZED FOR 0.2" WC OF STATIC PRESSURE

FAN COIL UNIT SCHEDULE																						
ID	DESCRIPTION	MANUFACTURER	MODEL NO.	QTY	SUPPLY AIR		OUTSIDE AIR		RETURN AIR		Nominal Cooling Capacity	UNIT DIMENSIONS			UNIT WEIGHT	FLA	MCA	MOCP	VOLT	PH	FREQ	REMARKS
					FLOW	FLOW	FLOW	FLOW	LENGTH	WIDTH		HEIGHT										
CAS-1	Indoor Casette Ductless System	Carrier Corporation	40MBC009-3	1	300 CFM	0 CFM	0 CFM	0 CFM	0 Btu/h			1'-10 13/32"	1'-10 13/32"	10 1/4"	40 lb	0.0 A	0.2 A	0.0 A	208 V	1	60 Hz	POWERED FROM OUTDOOR HEAT PUMP HP-1, OR EQUAL ACCEPTABLE

NOTE: SIZED FOR 0.2" WC OF STATIC PRESSURE

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE									
ID	Count	MANUFACTURER	MODEL	MATERIAL	FINISH	INSTALLATION		SPECIFICATION	NOTES
						TYPE	TYPE		
EG1	10	Taus	PAR	STEEL	WHITE ENAMEL	LAY-IN INSTALLATION	PERFORATED DIFFUSER WITH FACE MOUNTED DEFLECTORS		
EG2	4	Taus	PAR	STEEL	WHITE ENAMEL	LAY-IN INSTALLATION	PERFORATED DIFFUSER WITH FACE MOUNTED DEFLECTORS		
EG3	1	Taus	PAR	STEEL	WHITE ENAMEL	SURFACE MOUNT INSTALLATION	PERFORATED DIFFUSER WITH FACE MOUNTED DEFLECTORS		
RG1	3	Taus	PAR	STEEL	WHITE ENAMEL	LAY-IN INSTALLATION	PERFORATED DIFFUSER WITH FACE MOUNTED DEFLECTORS		
RG2	15	Taus	PAR	STEEL	WHITE ENAMEL	LAY-IN INSTALLATION	PERFORATED DIFFUSER WITH FACE MOUNTED DEFLECTORS		
RG3	2	Taus	355FL	ALUMINUM	WHITE ENAMEL	SURFACE MOUNT INSTALLATION			MOUNT GRILLES WITHIN 1'-0" OF THE FLOOR
SD1	42	Taus	TMS	STEEL	WHITE ENAMEL	LAY-IN INSTALLATION			
SD2	6	Taus	TMS	STEEL	WHITE ENAMEL	SURFACE MOUNT INSTALLATION			HIGH PERFORMANCE 3-CONE DIFFUSER

EXHAUST FAN SCHEDULE													
ID	DESCRIPTION	Manufacturer	Model	QTY	FAN DESIGN AIRFLOW	UNIT DIMENSIONS			UNIT WEIGHT	VOLT	PH	REMARKS	
						LENGTH	WIDTH	HEIGHT					
EF-1	CEILING FAN	GREENHECK	SP-110-VG	1	70 CFM	10 1/2"	11 3/8"	7 5/8"	12 lb	120 V	1	MUST BE WIRED TO COME ON WITH LIGHTS. COORDINATE WITH ELECTRICIAN.	
EF-2	CEILING FAN	GREENHECK	SP-110-VG	1	90 CFM	10 1/2"	11 3/8"	7 5/8"	12 lb	120 V	1	MUST BE WIRED TO RUN CONTINUOUSLY. COORDINATE WITH ELECTRICIAN.	
EF-3	CEILING FAN	GREENHECK	SP-110-VG	1	70 CFM	10 1/2"	11 3/8"	7 5/8"	12 lb	120 V	1	MUST BE WIRED TO COME ON WITH LIGHTS. COORDINATE WITH ELECTRICIAN.	
EF-4	CEILING FAN	GREENHECK	SP-110-VG	1	50 CFM	10 1/2"	11 3/8"	7 5/8"	12 lb	120 V	1	MUST BE WIRED TO RUN CONTINUOUSLY. COORDINATE WITH ELECTRICIAN.	
EF-5	Ceiling Exhaust Fan	Greenheck	SP-B200	1	195 CFM	1'-0"	1'-2"	7"	10 lb	1200 V	1	MUST BE WIRED TO RUN CONTINUOUSLY. POWER SUPPLIED FROM THE ESSENTIAL ELECTRICAL SYSTEM. COORDINATE WITH ELECTRICIAN.	



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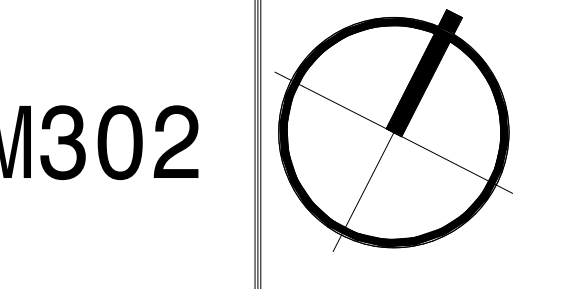


DRAWING TITLE:
HVAC SCHEDULES

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CONSTRUCTION DOCUMENTS		
REVISIONS		
NO.	DATE	DESCRIPTION
1	02/06/23	COORD REVIEW COMMENTS
3	01/10/23	GC REQUEST
4	01/10/23	COORD REVIEW COMMENTS #3
5	7/25/2023	REVIEW COMMENTS

ISSUE DATE: DECEMBER 16, 2022



**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 1A
winter dry bulb: 43 F
summer dry bulb: 91 F

Interior design conditions
winter dry bulb: 68 F
summer dry bulb: 78 F
relative humidity: 50%

Building heating load: 12,100 BTU
Building cooling load: 38,400 BTU

Mechanical Spacing Conditioning System
Unitary SEE PLANS
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: _____

1 RTU-1 APPENDIX B MECHANICAL
M304 1/8" = 1'-0"

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 1A
winter dry bulb: 43 F
summer dry bulb: 91 F

Interior design conditions
winter dry bulb: 68 F
summer dry bulb: 78 F
relative humidity: 50%

Building heating load: 16,100 BTU
Building cooling load: 51,500 BTU

Mechanical Spacing Conditioning System
Unitary SEE PLANS
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: _____

2 RTU-2 APPENDIX B MECHANICAL
M304 1/8" = 1'-0"

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 1A
winter dry bulb: 43 F
summer dry bulb: 91 F

Interior design conditions
winter dry bulb: 68 F
summer dry bulb: 78 F
relative humidity: 50%

Building heating load: 15,800 BTU
Building cooling load: 50,300 BTU

Mechanical Spacing Conditioning System
Unitary SEE PLANS
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: _____

3 RTU-3 APPENDIX B MECHANICAL
M304 1/8" = 1'-0"

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 1A
winter dry bulb: 43 F
summer dry bulb: 91 F

Interior design conditions
winter dry bulb: 68 F
summer dry bulb: 78 F
relative humidity: 50%

Building heating load: 11,500 BTU
Building cooling load: 35,400 BTU

Mechanical Spacing Conditioning System
Unitary SEE PLANS
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: _____

4 RTU-4 APPENDIX B MECHANICAL
M304 1/8" = 1'-0"

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS**
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 1A
winter dry bulb: 43 F
summer dry bulb: 91 F

Interior design conditions
winter dry bulb: 68 F
summer dry bulb: 78 F
relative humidity: 50%

Building heating load: 16,400 BTU
Building cooling load: 52,300 BTU

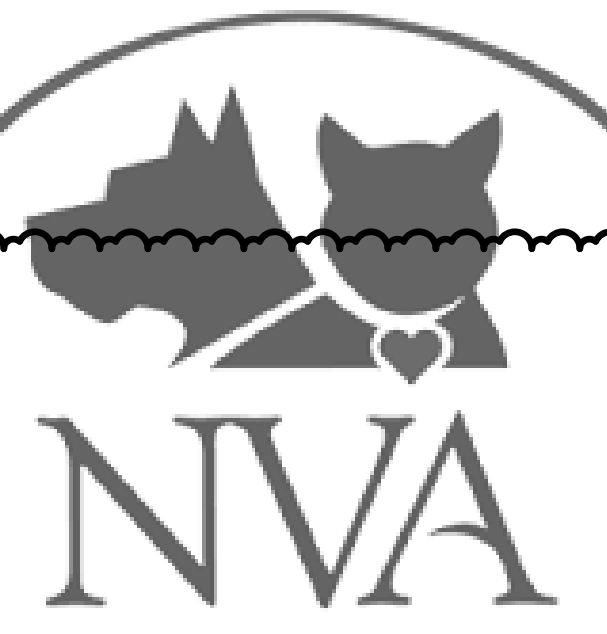
Mechanical Spacing Conditioning System
Unitary SEE PLANS
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____

Boiler
Size category. If oversized, state reason.: N/A

Chiller
Size category. If oversized, state reason.: N/A

List equipment efficiencies: _____

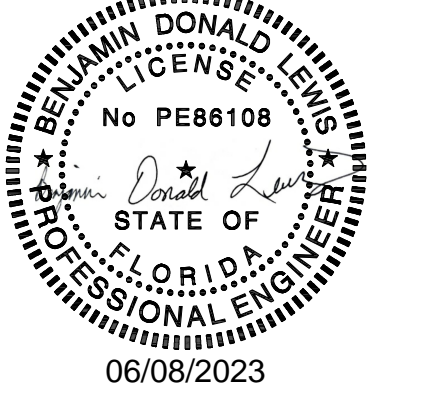
5 RTU-5 APPENDIX B MECHANICAL
M304 1/8" = 1'-0"



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DRAWING TITLE:
APPENDIX B MECHANICAL

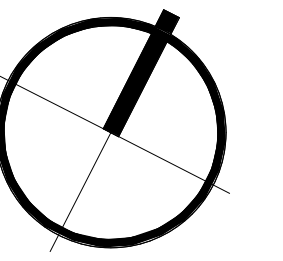
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CONSTRUCTION DOCUMENTS

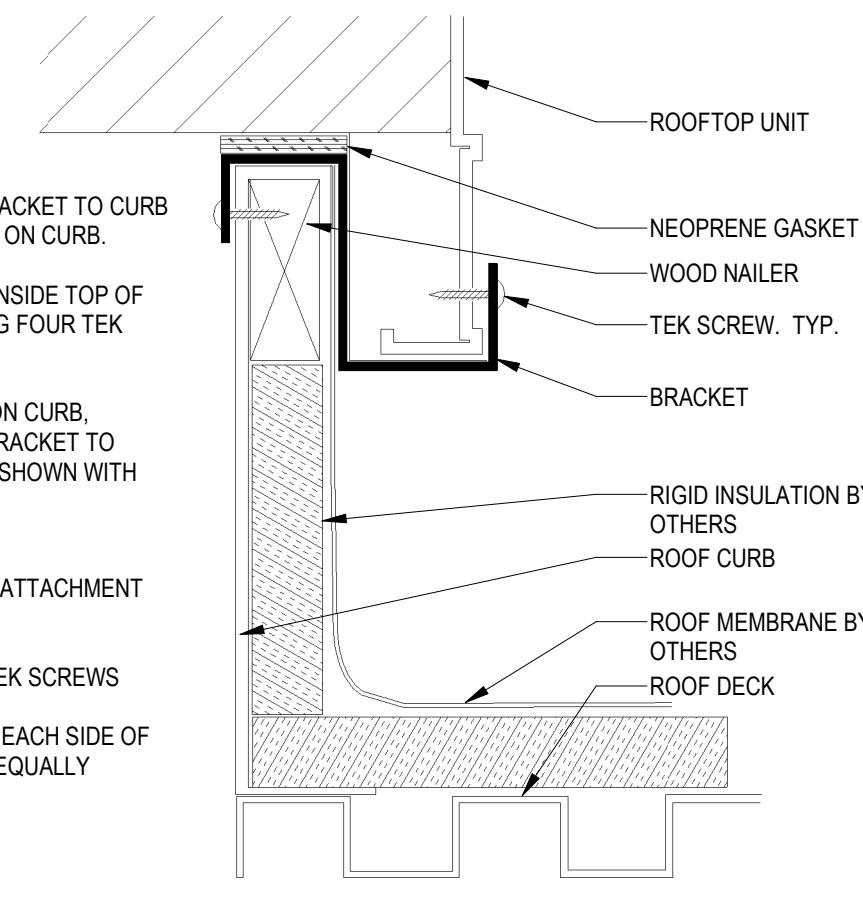
REVISIONS			
NO.	DATE	DESCRIPTION	CODE REVIEW COMMENTS #1
1	8/10/2023		

ISSUE DATE: DECEMBER 16, 2022

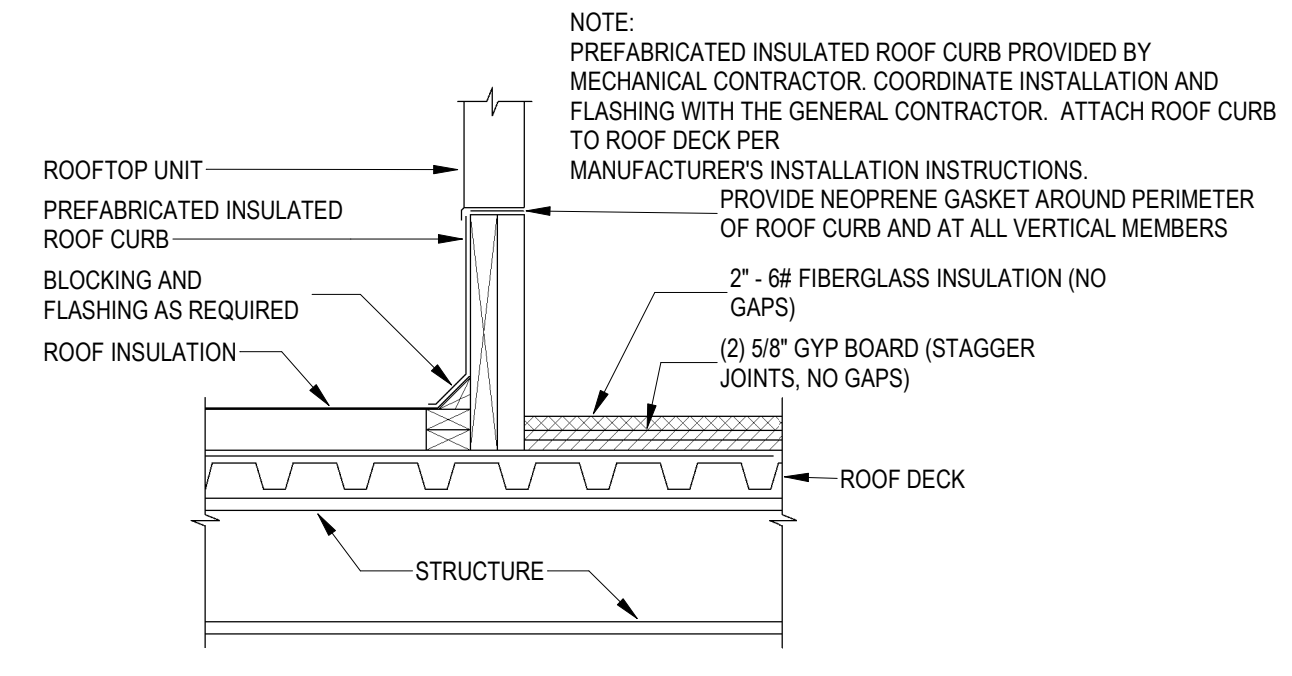
M304



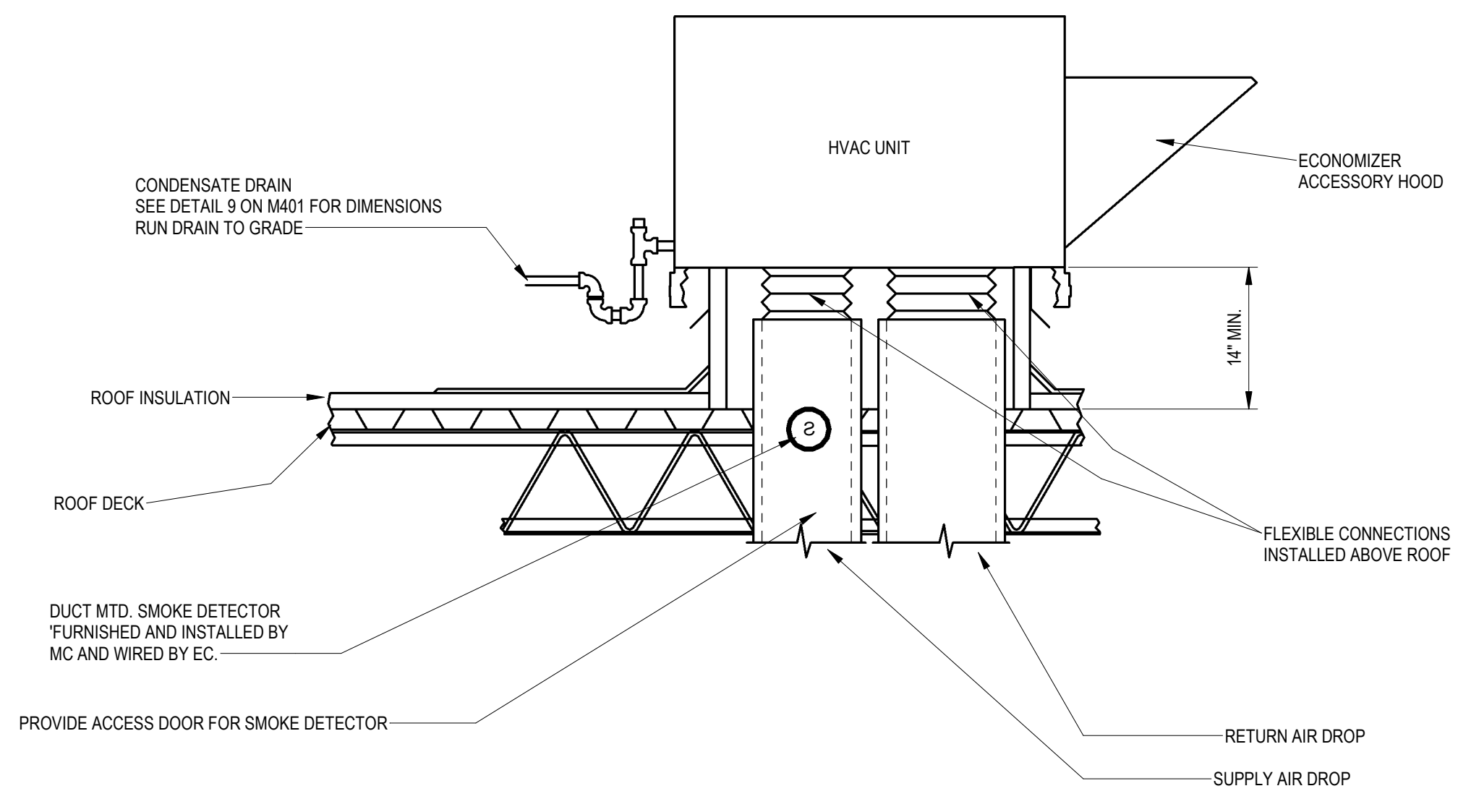
- INSTALLATION:**
- ATTACH MOUNTING BRACKET TO CURB BEFORE PLACING UNIT ON CURB.
 - ATTACH BRACKET TO INSIDE TOP OF CURB AS SHOWN USING FOUR TEK SCREWS.
 - AFTER PLACING UNIT ON CURB, ATTACH BOTTOM OF BRACKET TO BASE RAIL OF UNIT AS SHOWN WITH FOUR TEK SCREWS.
- HARDWARE PACKAGE:**
- FOUR (4) 10 GA. STEEL ATTACHMENT BRACKETS.
 - THIRTY-TWO (32) #10 TEK SCREWS.
 - TWO (2) BRACKETS ON EACH SIDE OF LONG SIDES OF CURB EQUALLY SPACED.



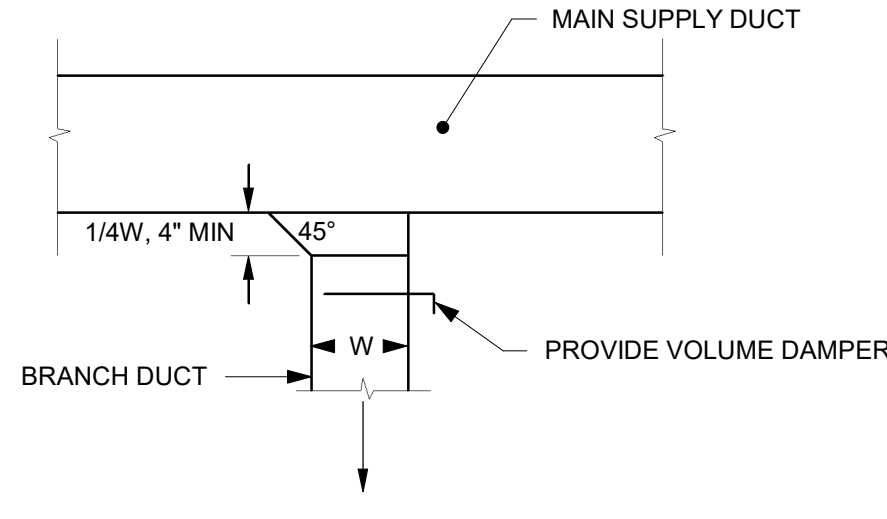
3 RTU HOLD-DOWN BRACKET INSTALLATION DETAIL
M401 NOT TO SCALE



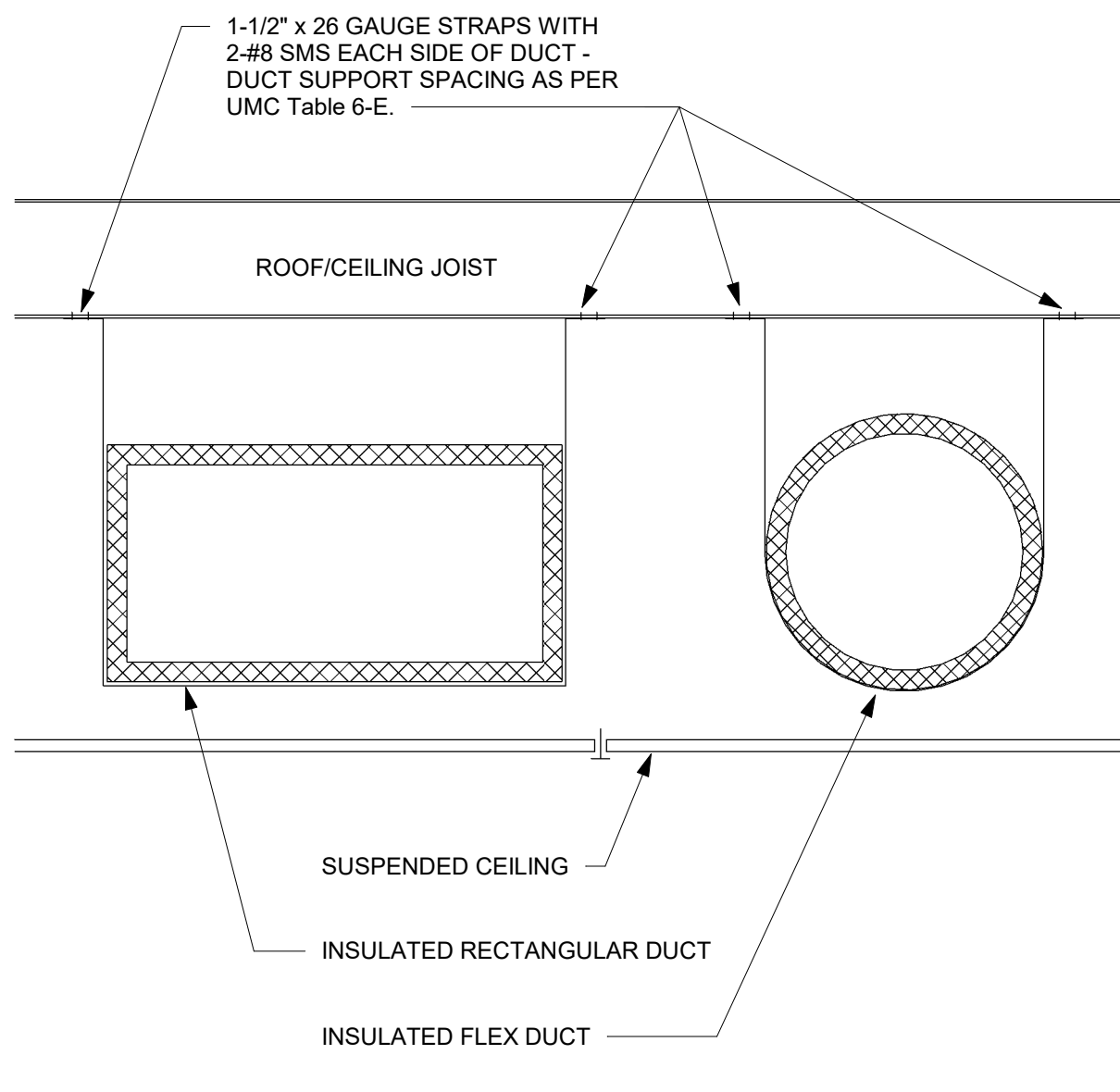
2 ROOFTOP UNIT CURB INSTALLATION DETAIL
M401 NOT TO SCALE



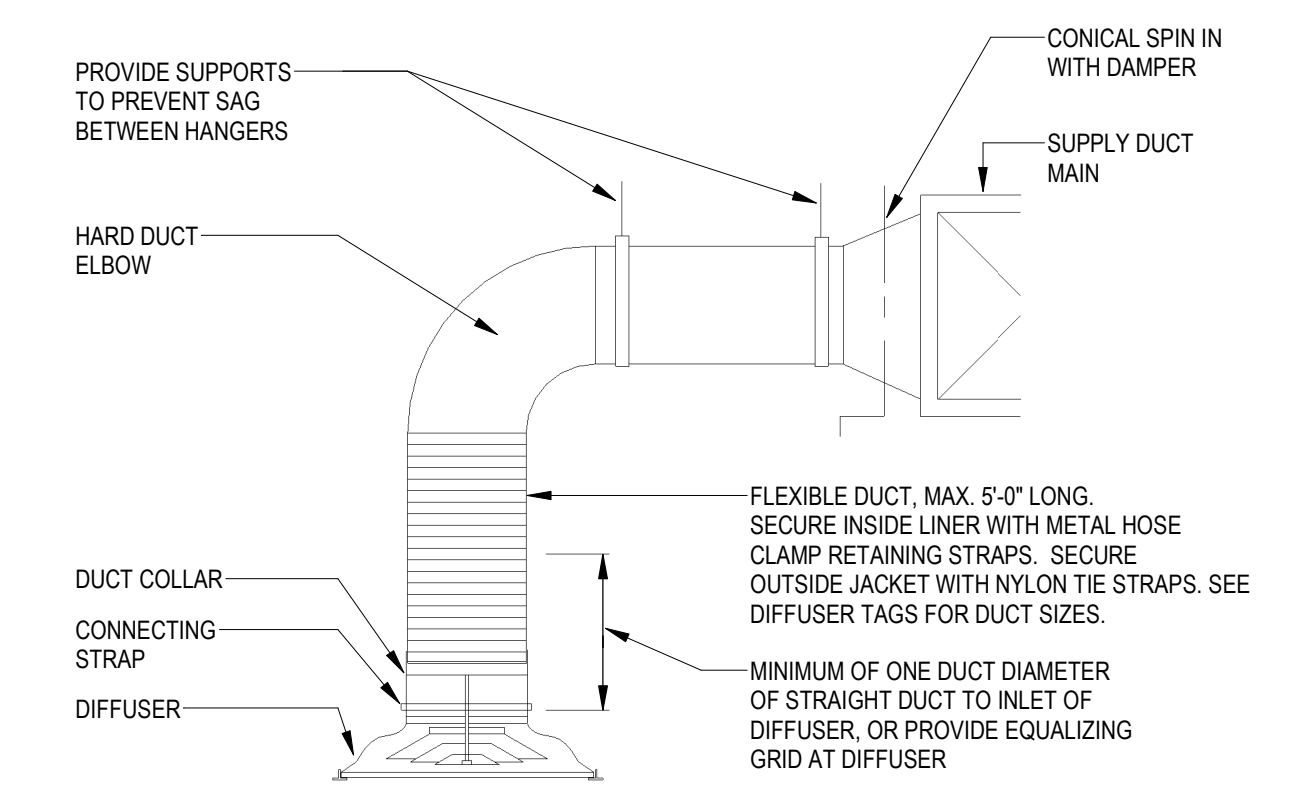
1 ROOFTOP UNIT
M401 NOT TO SCALE



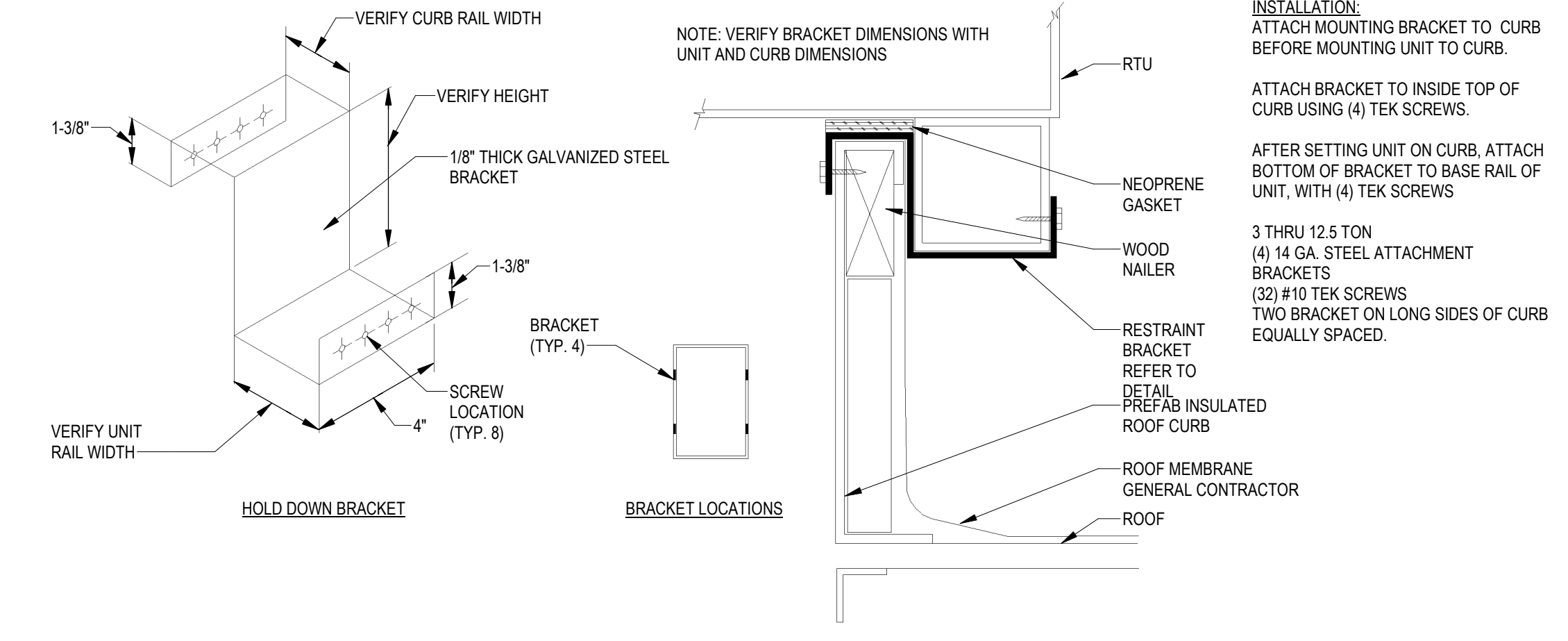
7 DUCT TAKE-OFF DETAIL
M401 NOT TO SCALE



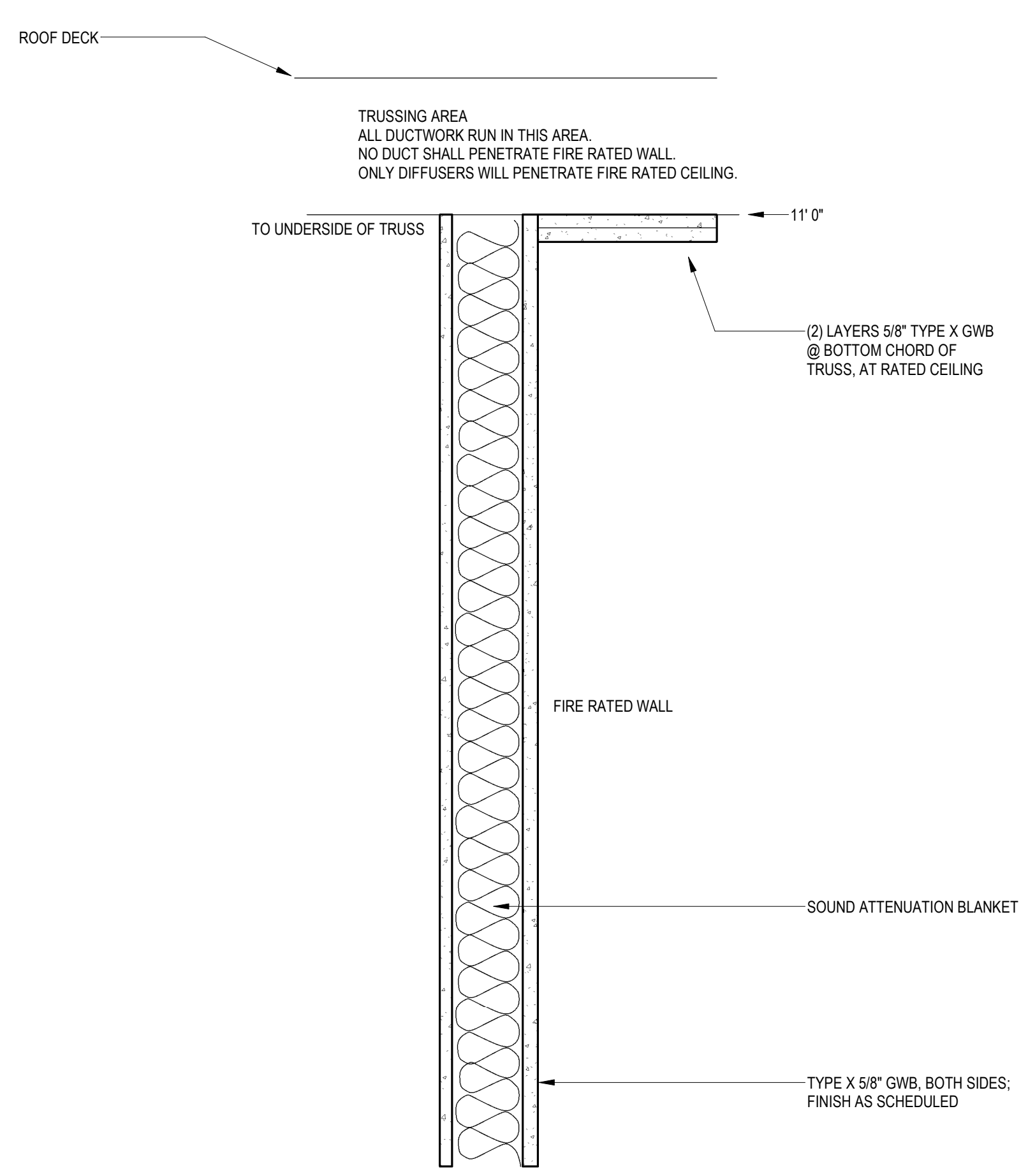
6 DUCT SUPPORT DETAIL
M401 NOT TO SCALE



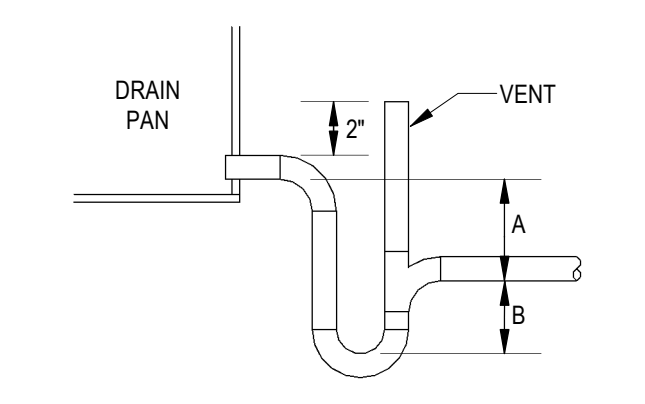
5 DIFFUSER FLEXIBLE DUCT CONNECTION
M401 NOT TO SCALE



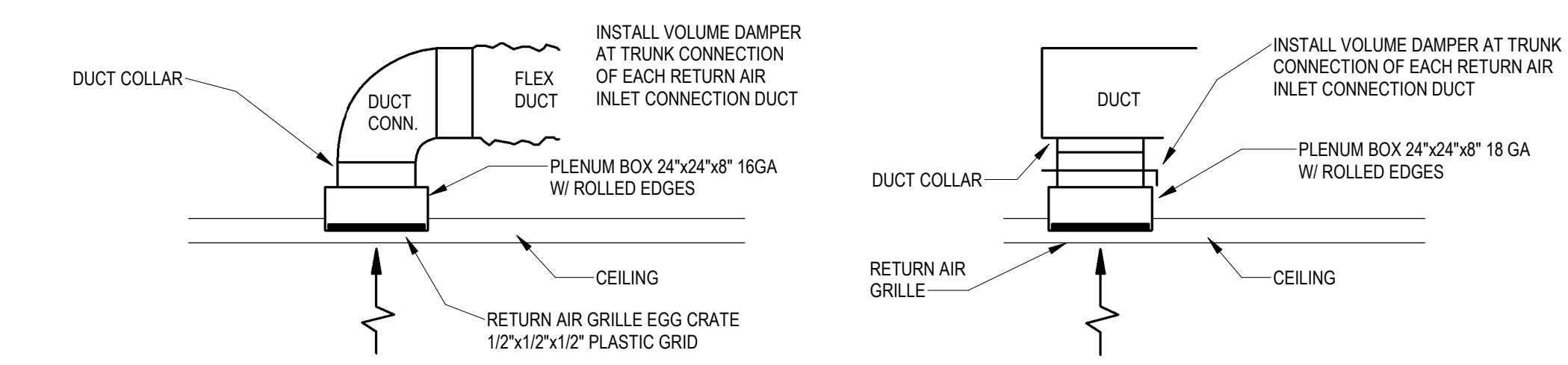
4 RTU SEISMIC/WIND RESTRAINT BRACKET DETAIL
M401 NOT TO SCALE



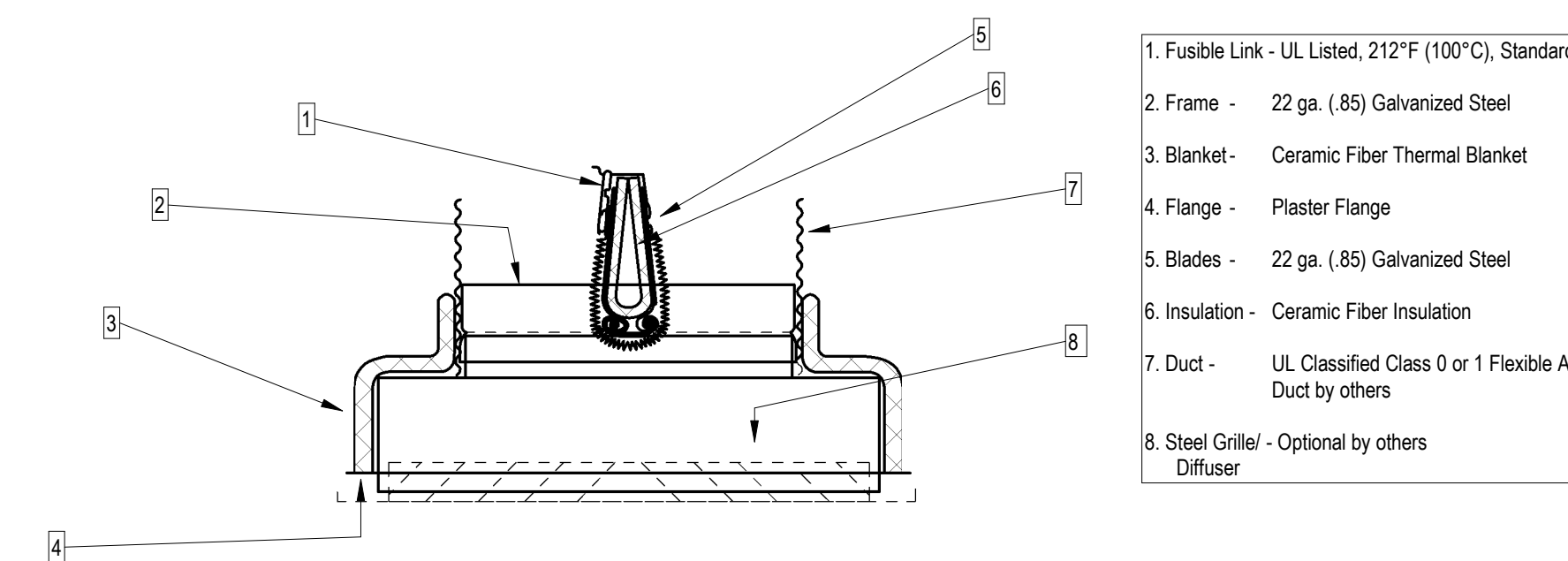
11 WALL SECTION OF DUCT ROUTING
M401 NOT TO SCALE



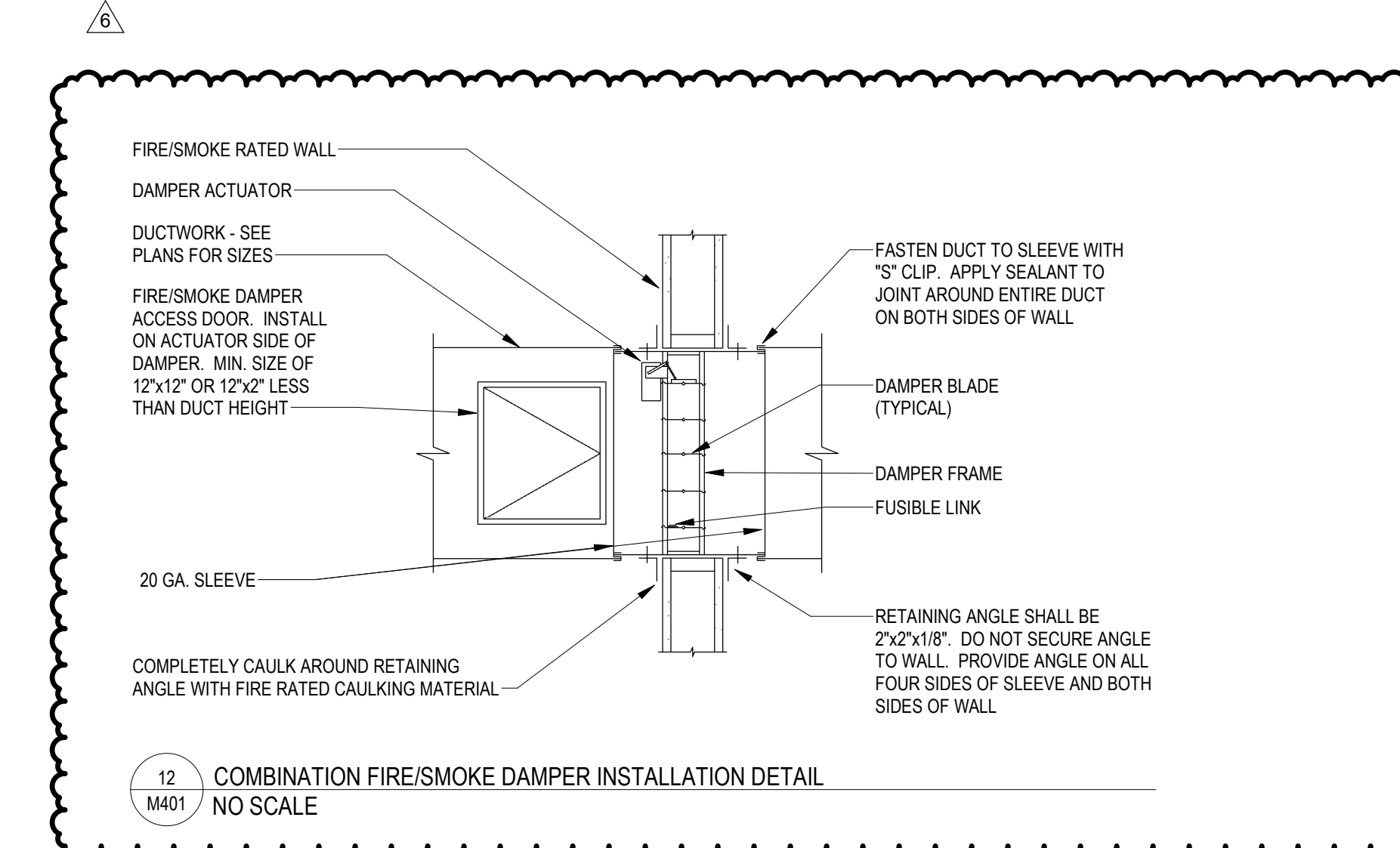
9 COOLING COIL CONDENSATE DRAIN DETAIL
M401 NOT TO SCALE



8 DUCT PENETRATION THROUGH ROOF
M401 NOT TO SCALE



10 NAILOR CEILING DAMPER DETAIL
M401 NOT TO SCALE



12 COMBINATION FIRE/SMOKE DAMPER INSTALLATION DETAIL
M401 NO SCALE



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RALEIGH, NC 27603
NC FIRM # C-3824
KPG PROJECT # 222S134



DRAWING TITLE:
HVAC DETAILS

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REVISIONS			
NO.	DATE	DESCRIPTION	
1	10/26/2023	CODE REVIEW COMMENTS	
2	3/28/2023	CODE REVIEW COMMENTS #2	
3	7/25/2023	REVIEW COMMENTS	
6	10/23/2023	FIRE DAMPERS	

ISSUE DATE: DECEMBER 16, 2022

M401